

REMARKS

Claims 1-62 of the present application are rejected by the examiner under 35 U.S.C. §102(e) as being anticipated by Chui (US6,707,799). This rejection is respectfully traversed. It is noted that claims 1-62 have been canceled from the application, and claims 63-126 have been substituted therein for clarification purposes in order to more succinctly define the scope of the present invention.

During a telephonic interview between the undersigned attorney and the examiner on July 26, 2004, the various rejections of the claims were discussed with respect to the present invention and the cited prior art references. A summary of the telephonic interview is presented below. At the conclusion of the telephonic interview, it was agreed that US6,707,799 to Chui does not appear to teach or suggest the use of a timer mechanism for causing the system of Chui to wait a predetermined time interval before disabling fragmentation on a link in response to detection of real-time traffic on the link. Additionally, it was agreed that Chui does not appear to teach or suggest the feature of dynamically increasing a packet fragmentation size value of a link over a given time period in response to detecting the absence of real-time traffic on the link during the given time period.

Independent claim 63 of the present application is directed to a method for providing adaptive fragmentation of information packets transmitted over a link in a data network. The method of claim 63 defines various features, including, for example, automatically enabling fragmentation on a link in response to the detection of the presence of real-time traffic on the link; detecting the absence of real-time traffic on the link; determining whether a predetermined time interval T has elapsed since detection of the absence of real-time traffic on the link; and automatically disabling fragmentation on the link in response to determining that the predetermined time interval T has elapsed since the detection of the absence of real-time traffic on the link. Support for such features may be found, for example, in the specification, pp. 9-11, and Figure 2 of the drawings.

As discussed during the telephonic interview, Chui does not teach or suggest the combination of features defined, for example, in claim 63 of the present application for detecting the absence of real-time traffic on the link; determining whether a predetermined time interval T has elapsed since detection of the absence of real-time traffic on the link; and automatically disabling fragmentation on the link in response to determining that the predetermined time interval T has elapsed since the detection of the absence of real-time traffic on the link. For example, as stated in Chui, column 3, lines 54-56, if a voice call ceases on a particular link in the

system of Chui, then fragmentation operations will be discontinued (provided that the peer devices using the link agree to relinquish fragmentation operations). From this teaching, it is clear that Chui teaches the desirability to discontinue fragmentation operations on a given link in response to detecting the ceasing of voice calls on that link. However, there is no teaching or suggestion in Chui of the desirability to delay the discontinuing of fragmentation operations for a predetermined time period after it has been detected that the voice call has ceased.

In contrast, as described, for example, on page 9, lines 18-29 of the present application, if, during a predetermined time interval T, no real-time traffic has been transported on a selected link, then fragmentation may be disabled on that link. Whenever real-time traffic is detected on the link, fragmentation may be immediately enabled. According to a specific embodiment, the value of the predetermined time interval T may be configurable and may depend one or more parameters specific to the data network implementing the present inventive technique. According to a specific implementation, the value of the predetermined time interval T may range, for example, from a few milliseconds to several minutes.

Since there is no teaching or suggestion in Chui of the combination of features defined, for example, in claim 63 of the present application, claim 63 is believed to be unanticipated and unobvious in view of Chui, and is therefore believed to be allowable.

Independent claims 79, 95, and 111 define features similar to those defined in claim 63, and are therefore believed to be allowable for at least those reasons stated above in support of claim 63. Additionally, dependent claims 64-71, 80-87, 96-103 and 112-119 are also believed to be allowable since they depend upon independent claims 63, 79, 95, and 111 respectively.

Independent claim 72 of the present application is directed to a method for providing adaptive fragmentation of information packets transmitted over a link in a data network. The method of claim 72 defines various features, including, for example, configuring a link to include a dynamically adjustable FRAG_SIZE value relating to a fragmentation size for packets carried on the link such that fragmentation will be performed on selected packets which have a size greater than the FRAG_SIZE value; and dynamically increasing the FRAG_SIZE value on the link over a given time period in response to detecting the absence of real-time traffic on the link during the given time period. Support for such features may be found, for example, in the specification, pp. 14-18, and Figure 4 of the drawings.

As discussed during the telephonic interview, Chui does not teach or suggest the combination of features defined, for example, in claim 72 of the present application for configuring a link to include a dynamically adjustable FRAG_SIZE value relating to a fragmentation size for packets carried on the link such that fragmentation will be performed on

selected packets which have a size greater than the FRAG_SIZE value; and dynamically increasing the FRAG_SIZE value on the link over a given time period in response to detecting the absence of real-time traffic on the link during the given time period. For example, as stated in Chui, column 8, lines 35-51, if fragmentation is enabled on a particular link in the system of Chui, the peer devices may negotiate with each other to determine an appropriate maximum packet frame size value. Once the appropriate maximum packet frame size value has been determined, fragmentation may be enabled on the link between the two peers, using a static maximum packet frame size value which corresponds to the the selected maximum packet frame size. However, there is no teaching or suggestion in Chui of the desirability to dynamically increase the maximum packet frame size value on the link over a given time period in response to detecting the absence of real-time traffic on the link during the given time period.

In contrast, as described, for example, on page 14, lines 11-17, the use of fragmentation on a given link may be dynamically and automatically controlled by adjusting the FRAG_SIZE value associated with that link. For example, where the value of FRAG_SIZE is set equal to the maximum packet size value or maximum transmission unit (MTU) value for a particular link, fragmentation on that link will effectively be disabled. Alternatively, where the value of FRAG_SIZE is set equal to the minimum fragment size or minimum transmission unit value on a particular link, fragmentation on that link will effectively be enabled. Additionally, as described on pp. 16-17, if no real-time traffic has been detected on the link for a given time period, the FRAG_SIZE value associated with the link may be automatically and dynamically increased in accordance with a predetermined formula or algorithm. Moreover, the FRAG_SIZE value associated with the link may continue to be automatically and dynamically increased over time if the absence of real-time traffic on the link continues to be detected.

Since there is no teaching or suggestion in Chui of the combination of features defined, for example, in claim 72 of the present application, claim 72 is believed to be unanticipated and unobvious in view of Chui, and is therefore believed to be allowable.

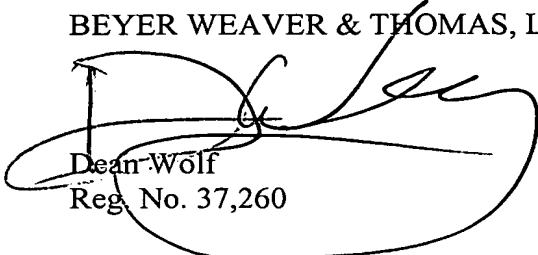
Independent claims 88, 104, and 120 define features similar to those defined in claim 72, and are therefore believed to be allowable for at least those reasons stated above in support of claim 72. Additionally, dependent claims 73-78, 89-94, 105-110 and 121-126 are also believed to be allowable since they depend upon independent claims 72, 88, 104, and 120 respectively.

Because claims 63-126 are believed to be allowable in their present form, many of the examiner's rejections in the Office Action have not been addressed in this response. However, applicant respectfully reserves the right to respond to one or more of the examiner's rejections in subsequent amendments should conditions arise warranting such responses.

Applicants believe that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,

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